

Sub B3
14. (Amended) An apparatus for determining a direction or parallelism of a beam, comprising:
means for forming a beam;
means for forming an adjusted intensity profile from at least a portion of the beam at a first position;
means for detecting an intensity profile of at least a portion of the beam downstream of the first position; and
means for determining a direction or parallelism of the beam relative to a reference direction based on a position of the detected intensity profile relative to a position where the adjusted intensity profile is formed.
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15. (Amended) An apparatus for determining a direction or parallelism of a charged particle beam, comprising:
at least one detector that detects an intensity profile of at least a portion of the charged particle beam;
a beam modifier that alters an intensity profile of at least a portion of the charged particle beam upstream of the at least one detector; and
a controller that determines a direction or parallelism of the charged particle beam relative to a reference direction based on a position where the intensity profile is detected by the at least one detector and a position where the beam modifier created the detected intensity profile.

Please add new claims 23 and 24 as follows:

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23. (New) The apparatus of claim 15, wherein the at least one detector includes at least three detectors and the controller determines a direction or parallelism of the charged particle beam in three dimensions relative to the reference direction.

24. (New) The apparatus of claim 15, wherein the direction or parallelism is determined based on detections of intensity profiles at a plurality of different positions.